

480P and the video standard 480I, for example, the voltage of a white level at which white is displayed on a television screen is 700 mV. Further, the peak level of the additional information CGMS in the video standard 480P is 490 mV, and the peak level of the additional information WSS of the video standard 480I is set to be 500 mV.

FIG. 7 shows a block diagram which is the structure of a television signal processor according to a second embodiment of the present invention. The television signal processor 300 shown in FIG. 7 comprises a decoding part 201, an additional information recognizing part 301, a ROM 302 in the additional information recognizing part 301, a RAM interface 204, a video data reading part 205, an OSD data reading part 206, an additional information reading part 207, a horizontal/vertical synchronous pulse generating part 208, a combining part 209 and an additional information synthetic position deciding part 210, a ROM 211 in the additional information synthetic position deciding part 210, and a level converting part 303. As to components similar to those of the first embodiment, reference numerals are rendered identical and description thereof is omitted.

The television signal processor 300 in this embodiment can convert the output level of the additional information S_s varying with a broadcast wave on which the additional information S_s is multiplexed into a standardized output level so as to combine the same. The additional information recognizing part 301 generates color conversion information on the basis of OSD data generated by the CPU 7 in FIG. 1 (hereinafter, referred to as OSD color conversion information). Hereinafter description is made under classification to an effective display area and a retrace interval.

In the effective display area, OSD data S_o read by the OSD data reading part 206 is first inputted in the level converting part 303. The additional information recognizing part 301 outputs the OSD color conversion information generated by itself to the level converting part 303. On the basis of the inputted OSD color conversion information, the level converter 303 converts the OSD data S_o and outputs the same to the combining part 209 in order to display the OSD data S_o on the screen of a television. The combining part 209 combines the color-converted OSD data S_o and video data S_v read by the video data reading part 205.

At the retrace interval, on the other hand, the additional information recognizing part 301 can recognize the standard of a broadcast wave on the basis of the inputted broadcast wave information S_b. In the ROM 302, in addition to the target values stored in the additional information recognizing part 203 in the first embodiment, information relevant to the output level of additional information S_s previously determined according to standard of the broadcast wave is stored. When the additional information recognizing part 301 recognizes the standard of the broadcast wave, therefore, the additional information recognizing part 301 refers to the ROM 302 and can select the output level corresponding to the standard of the additional information S_s. This is because the output level of the additional information S_s is determined according to a standard. The additional information recognizing part 301 notifies the level converting part 303 about the selected output level of the additional information S_s.

In the level converting part 303, an output level notice of the additional information S_s selected by the additional information recognizing part 301 and the additional information S_s read by the additional information reading part 207 are inputted. The level converting part 303 receives the output level of the additional information S_s notified by the

additional information recognizing part 301, converts the same to the output level of the additional information CGMS or the additional information WSS shown in FIG. 6, for example, and outputs the same to the combining part 209. The combining part 209 combines in the additional information S_s whose output level has been converted in the interval, while combining the OSD data S_o and the video data S_v at an effective display interval and outputting the same as a video signal.

The present invention can be employed for a television signal processor which can process a received broadcast wave and combine video data, OSD data and additional information regularly in a proper state.

What is claimed is:

1. A television signal processor for processing a received broadcast wave and generating a television signal, said television signal processor comprising:

storage means for storing video data and additional information separated from the received broadcast wave and OSD data generated on a receiver;

read means for respectively reading the video data, the additional information and the OSD data from said storage means;

standard detection means for detecting a standard of the received broadcast wave;

timing control means for respectively controlling timing of said read means for reading the video data, the OSD data and the additional information from said storage means in correspondence to the standard detected by said standard detections means; and

combining means for combining the video data, the OSD data and the additional information read by said read means as combined data to output the combined data as the television signal.

2. The television signal processor according to claim 1, wherein the received broadcast wave is a digital broadcast wave.

3. The television signal processor according to claim 1, wherein said timing control means comprises:

memory means for storing timing information for defining the read timing of said read means according to the standard of the received broadcast wave; and

reference means for referring to said memory means for the timing information corresponding to the standard detected by said standard detection means, and supplying the timing information to said read means, wherein said read means respectively reads the video data, the additional information, and the OSD data from said storage means at timing corresponding to the timing information supplied from said reference means.

4. The television signal processing according to claim 3, wherein said memory means comprises:

a first table memory operable to store timing information for defining read timing for the video data and the OSD data according to the standard of the received broadcast wave; and

a second table memory operable to store timing information for defining read timing for the additional information according to the standard of the received broadcast wave and information in the additional information, wherein said reference means refers to said first table memory thereby providing said read means with the timing information for defining the read timing for the video data and the OSD data, and refers to said second

11

table memory thereby providing said read means with the timing information for defining the read timing for the additional information.

5. The television signal processing according to claim 1, further comprising level conversion means for converting an output level of the additional information read by said read means, wherein

said combining means combines the additional information, whose input level was converted by said

12

level conversion means, with the video data and the OSD data read by said read means.

6. The television signal processor according to claim 5, wherein said level conversion means converts the output level of the additional information to a level determined according to the standard detected by said standard detection means.

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